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ANATOMICAL DISCOVERY—THE LIGAMENTUM DENTIS.

[WITH A LITHOGRAPHIC PLATE.]

*To the Editor of the Boston Medical and Surgical Journal.*

DEAR SIR,—I have been somewhat inclined to address you on this matter of the *new ligament*, before this, as it has made much stir in Philadelphia for these three or four months past; yet on reflection I could not but view it as of too ridiculous a character to deserve serious comment in a scientific journal. But I have been in error: and the subject has been publicly introduced in the American Journal of Medical Science, by a very respectable teacher of anatomy—Dr. P. Goddard, of Philadelphia. It is, therefore, now a subject not to be passed over in silence, by those who are seeking for truth, and who are willing that the whole truth, and nothing but the truth, should be told.

While on a visit to Philadelphia, in October, I heard much of the skill of a certain dentist—a Mr. Caldwell—who extracted teeth without giving pain, or causing so little that it was not worth considering; that he removed them from the jaw with much less effort than is usually requisite—commonly with his fingers, using no instrument but a lancet or penknife to *loosen the tooth*, which he did by cutting a previously unknown *ligament* that he had discovered, and which he declared to be the main bond of attachment between the teeth and jaw, and the principal obstruction to their removal from their bony sockets.

I treated the matter as one of the thousand that are devised to gull the public, who are generally ignorant of the truth in regard to such things. I found myself, however, so much opposed by several friends who had heard of the dentist and his discovery, and who stated many cases which had been related to them of facts, that I was determined to see Mr. Caldwell, and be informed from the only source whence I could expect to be fully satisfied.

I saw Mr. C., and after spending about an hour with him, endeavoring to get definite answers to my questions, which were mostly replied to by asking me others, or reading to me portions of manuscript which he had written on the subject, but which appeared to me to have no bearing on the question of the ligament, I was obliged to leave him with much the same impression that I had entertained previous to my call.

Although Mr. C. received me with great civility, and allowed me to ask any question that I wished, he was apparently unwilling to answer

them till he had stated the views of several writers with regard to the articulations of the teeth, and the anatomy of the parts connected with them, and requested to know my views concerning certain conflicting opinions. This seemed to me to be done for the purpose of discovering whether he was dealing with one who had any definite or exact knowledge on the subject; for, as we approached it more nearly, and I had obtained all the explanation I was likely to get, and said to him, "then it seems you have not any new organ or part to demonstrate which has not been known to us before, and described by those who have written on the subject, and the parts which we call fibrous membrane and gum, or periosteum and gum, you call ligament"—his reply was something like this: "Why, sir, you know the names of parts depend on the fancy of those who give them." This appeared to me like grasping at a more slender hold, and very much like what is vulgarly called backing out. Our conversation ended here, but as I was leaving the room, Mr. C. said, the part which I call the ligament is situated between the teeth, only, and it is there that I cut to loosen the one which I wish to extract.

Since this my attention has been directed to the article of Dr. Goddard, above mentioned. On reading it, I could not but feel surprised at the result of Dr. G.'s researches, if he was at all acquainted previously with the minute anatomy of the parts under consideration, and with the situation of the teeth in the different stages of their formation and development. And since Dr. G. thinks he has discovered the *ligament*, I am sorry he did not think his communication worthy of a plate which would in some degree serve as an illustration, rather than send it out with a diminutive wood engraving, perfectly indefinite in its delineation in the points which should relate to his discovery.

On the ground of a long and intimate acquaintance with the anatomy of the teeth, and of recent examinations of them with a view to furnish the remarks which I am now about to make for your Journal, I am prepared to say, that there is nothing about the teeth, their bony sockets and surrounding gum, which deserves the name of *ligament*. That there is no part of the soft structure which surrounds the teeth above the edges of the alveoli (call it by what name you will), which serves to confine them in any remarkable manner in the jaw, or which prevents, in any perceptible degree, their being detached from their firm articulation with the sockets, in the case of an attempt to extract them. That this firm articulation of a tooth with its socket, and the corresponding resistance which is presented when we endeavor to dislocate it, depend, therefore, entirely on the intimate connection of the fang with the socket, by means of a strong intervening membrane, commonly called periosteum, on the form of the fang and socket, and on the thickness and density of the bony sides of the socket. [See plate, fig. 1, a.] And the part which is introduced as the *new ligament*, is nothing more than that portion of the gum which covers the transverse processes of the alveoli, united with the fibres of the periosteum above mentioned, and those of the partially absorbed capsular membrane which envelops the crown of the tooth during its formation and until it passes through the

gum, all of which are united in a line about the neck of the tooth, immediately above the edge of the socket. [See plate, fig. 2, c, and fig. 3, c.] And this is no more than has been known for a century, at least, and may be learned from the works of Hunter, Blake, Bourdet, Fox, Thos. Bell, A. Serres, and many others.

There is, indeed, in some of the domestic animals, as the cow, sheep, hog, &c., much less of the appearance of bone about the sockets of the front teeth, than is found about those of man, the sockets of the former being composed more of a texture resembling a tough cartilage; yet in these the fangs of the teeth are secured entirely by the intervention of the same fibrous membrane—the periosteum.

Between the human teeth, in the mature state of either the infant or adult set, there is not room for the attachment of any ligamentous structure of sufficient magnitude or power to be of any importance in securing the teeth in their sockets, as may be seen by examining the jaw at the age of three years, or of twenty-five years. [See plate, fig. 1.] And all that can be found in the place said to be occupied by the *new ligament*, can be as clearly demonstrated to belong to one tooth as to the other, yet more justly, to both; and in proportion to the thickness of the gum, as much ligament can be shown on the sides of the teeth which correspond to the outer or inner arch of the jaw, as on the sides which are in apposition, notwithstanding we are informed that the *newly discovered ligament* is situated only *between* the teeth, and is attached to but one side—the *back*—of the next tooth. In a word, the *dental ligament* has been brought up by a change of name, instead of a real discovery of any new part, organ or texture.\*

But further—admitting it to exist—you would ask, what of its practical bearing in the operation of extracting the teeth? From a full and fair examination on this point, by numerous operations, I am ready to answer, that there is no perceptible difference in the looseness of a tooth, after all the soft parts have been thoroughly severed from it, be they ligament or what you please, and before the knife or lancet has touched them; provided the bony socket and membrane are in a perfect state, or under that degree of inflammation only in which they are found previous to ulceration. If, indeed, the surrounding bone is nearly or entirely absorbed, the gum and periosteum of the fangs much inflamed and thickened, as is sometimes the case when, through fear of an operation, the patient has kept a diseased tooth for months or years, the division of these soft parts will remove all obstruction, and the tooth may be lifted away with the thumb and finger. But these cases are not very common, and have nothing to do with our question.

With regard to the pain produced in the different modes of operating, any man who is in the daily practice of extracting teeth may very soon satisfy himself that cutting round them, as a general practice, is merely inflicting needless suffering; for the use of the most improved

\* In this opinion I have been confirmed not only by the investigation which I have made of the whole matter by myself, but by witnessing the result of various dissections and experiments made by a committee of physicians—*consultants*—of this city, appointed by an association for the purpose, who had with much labor and ingenuity displayed the structure of the parts in question, in the jaws of man and various domestic animals.

forceps, without cutting at all, will give less, and the tooth is thus removed by one operation instead of two, with perfect safety and more despatch. The forceps are now in very general use, and when they are accurately made to fit the teeth, and skilfully applied, they give so much less pain than the German key in any of its varied forms, that there is no longer any reasonable apology for the dentist who does not abandon the use of this instrument entirely. In the dextrous use of the forceps, therefore, I conceive, if in anything, consists the excellence of Mr. Caldwell's operations, and not in his peculiar "tack in severing the ligament," as is supposed by his friend Dr. Goddard. And I have no doubt that if Mr. C. will lay aside his lancet, and defy the strength of the *ligament*, he will give more satisfaction and less suffering to his patients than he now does.

I beg your patience while I state a few brief questions, and I will trouble you no longer on this matter.

If there is a ligament of such strength and importance confining the teeth in the manner which the discoverers would represent, why does a tooth require the same apparent effort to dislocate it, after all the soft parts connected with it have been severed to the bone, as it would before this had been done?

To what is the *ligament* attached when the edge of the alveolus is absorbed, removing thereby the point of its origin, and leaving the neck of the tooth—the part into which we are told it is so strongly inserted—standing denuded the eighth of an inch or more above the gum, as shown in the plate? [Fig. 5, *b b*.] And why does this tooth stand firm under such circumstances, and require about as much force to remove it, and give as much pain in the operation, as if the bone and the *new ligament* were in their natural and perfect state, but because it is wholly supported and retained by the strong articular membrane—the periosteum of the fang and its socket?

When a tooth has been fractured or has decayed below the edge of the socket, why is it as firmly retained as when its crown and neck were perfect? There is no *ligament* here. Why does it give as much pain to extract it as if it were whole? The ligament in this case has been severed. [See plate, fig. 5, *a*.]

What holds the fang of a tooth so firmly to a portion of the outer plate of the socket, which has been drawn away with it by the use of the old key-instrument. Is it the ligament? No, that has not been discovered on this side of the tooth—yet the adhesion of these parts is so great that it will commonly require the aid of some steel instrument to separate them. [See plate, fig. 4.]

If the firmness with which the teeth are fixed to the jaw does not depend, as I have already stated, on the thickness and density of the bone, the form of the fang and socket, and the intimate attachment of the articular membrane; how does it happen, when this membrane becomes inflamed and thickened, and its vascular tissue weakened, that the tooth is loosened and lifted somewhat from its berth, and may be extracted with much less force than when the parts were in a healthy state? And why is it found, as this disease increases and the union be-

tween the periosteum and fang is, perhaps, partially destroyed, that the tooth is nearly ready to drop out, or may be taken away with the slightest effort? The *ligament* is not destroyed. It has hardly begun to share in the disease of the parts; for every practitioner in dentistry, of any observation, knows that the inflammation of the periosteum commences at the extremity of the fang and extends towards the crown of the tooth.

These are questions, involving truths, the knowledge of which every dentist of much experience must possess. Perhaps the discoverers of the *new ligament* can solve them.

Yours, &c.

31 Winter Street, Boston, Feb. 21, 1839.

J. F. FLAGG.

#### REFERENCES TO THE PLATE.

Fig. 1.—A portion of the under jaw, showing the manner in which the edges of the sockets embrace the necks of the teeth, when both are in their perfect state. *a*, Indicates the fangs of a molar tooth, showing their most common form and connection with the bone—the outer plate of the socket being removed.

Fig. 2.—An enlarged drawing of a molar tooth while beneath the gum, before the fangs are formed. *A*, The crown of the tooth perfect. *a*, The gum. *b*, The white line representing the capsular membrane. At this point it is attached to the gum, and is absorbed while the tooth is rising to the situation shown in figure 3. *c*, The neck of the tooth, to which this membrane firmly adheres. *d*, One side of the membrane, which has been cut away and turned down.

Fig. 3.—An enlarged drawing to represent the same tooth shown in figure 2, after it has risen to its place above the gum, and the fangs have been perfectly formed. *c*, Indicates the white line representing the investing or capsular membrane of the fangs, and which becomes the periosteum or articular membrane when the tooth is fully grown, and remains united with the gum at *c*.

Fig. 4.—Teeth with portions of the bone or socket adhering, showing the common effect of using the German key to extract them, or of some violence or mal-adroitness in the operation.

Fig. 5.—The left side of an under jaw, with part of the teeth and gum remaining, to show how the sockets are absorbed, and the gum retracted about some of the teeth after others have been extracted, fractured or decayed next to them. *a*, The root of the second *bicuspid* broken below the edge of the perfect socket. *b b*, Teeth, the fangs of which are exposed, by the wasting of the socket, below the part to which the *new ligament* is said to be so firmly fixed.

#### CASE OF ANEURISM BY ANASTOMOSIS CURED BY TYING THE PRIMITIVE CAROTID.

To the Editor of the Boston Medical and Surgical Journal.

SIR,—In presenting this case to the publishers of your valuable and interesting Journal, I am unwilling to leave the impression that the more

operation of tying the carotid artery successfully, is thought to be of sufficient importance to lumber up your pages. The practicability of the operation is too well established to require confirmation, and its *novelty* has passed away with its frequent repetition. I present it merely because the object for which it was resorted to has been secured, viz., a complete cure of the aneurism. Such a result does not often follow; indeed, so little good has been gained by it, in a large majority of cases, that its entire abandonment has been recommended. When the aneurismal sac can be perfectly commanded, as when situated on the vertex, side of the head, &c., perhaps it would be best to commence the attack, at once, upon the tumor; but when it is otherwise, when it cannot be safely *entrenched* by the scalpel and ligature, there can then be no doubt as to the expediency of tying the carotid. If it succeeds—well; if not, there is no harm done.

March 12, 1835, Mrs. Rolls, aged twenty-three years, the wife of a soldier in the U. S. service, stationed at Fort Preble, in the sixth month of utero-gestation, and the mother of two children, had a pulsating tumor, extending from just above the angle of the left lower jaw, passing upwards, behind and nearly an inch above the ear. Its lateral diameter—i. e., from the ear backwards—was rather more than an inch. She discovered it two years before, immediately after a *severe attack of scolding*. It had increased very much within the last two or three months. Complains of thundering and throbbing in the left ear, with deep-seated pain and throbbing in the left orbit. In all other respects her health was perfect.

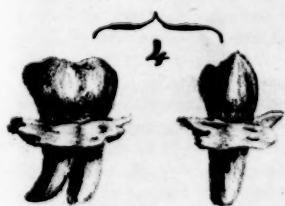
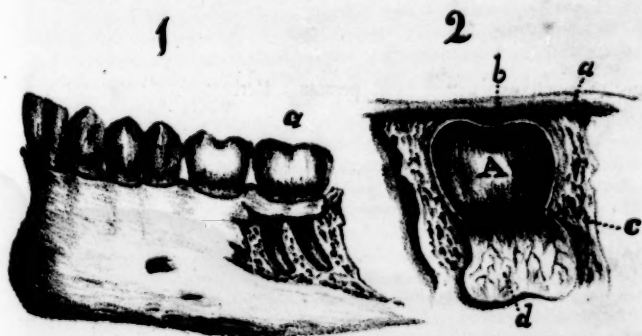
Assisted by Drs. Barrett and Merrill, of this city, I tied the primitive carotid artery just above the point where it is crossed by the omo hyoides muscle, with a flaxen ligature. The tumor immediately disappeared, together with all pulsation and throbbing in the ear and eye. She complained of pain just under the ear. Dressed the wound by stitch, adhesive straps, lint and handkerchief. Made pressure upon the site of the aneurism by compress and bandage, which was continued while she was under my care. Ordered neutral salts at bed-time; diet, gruel.

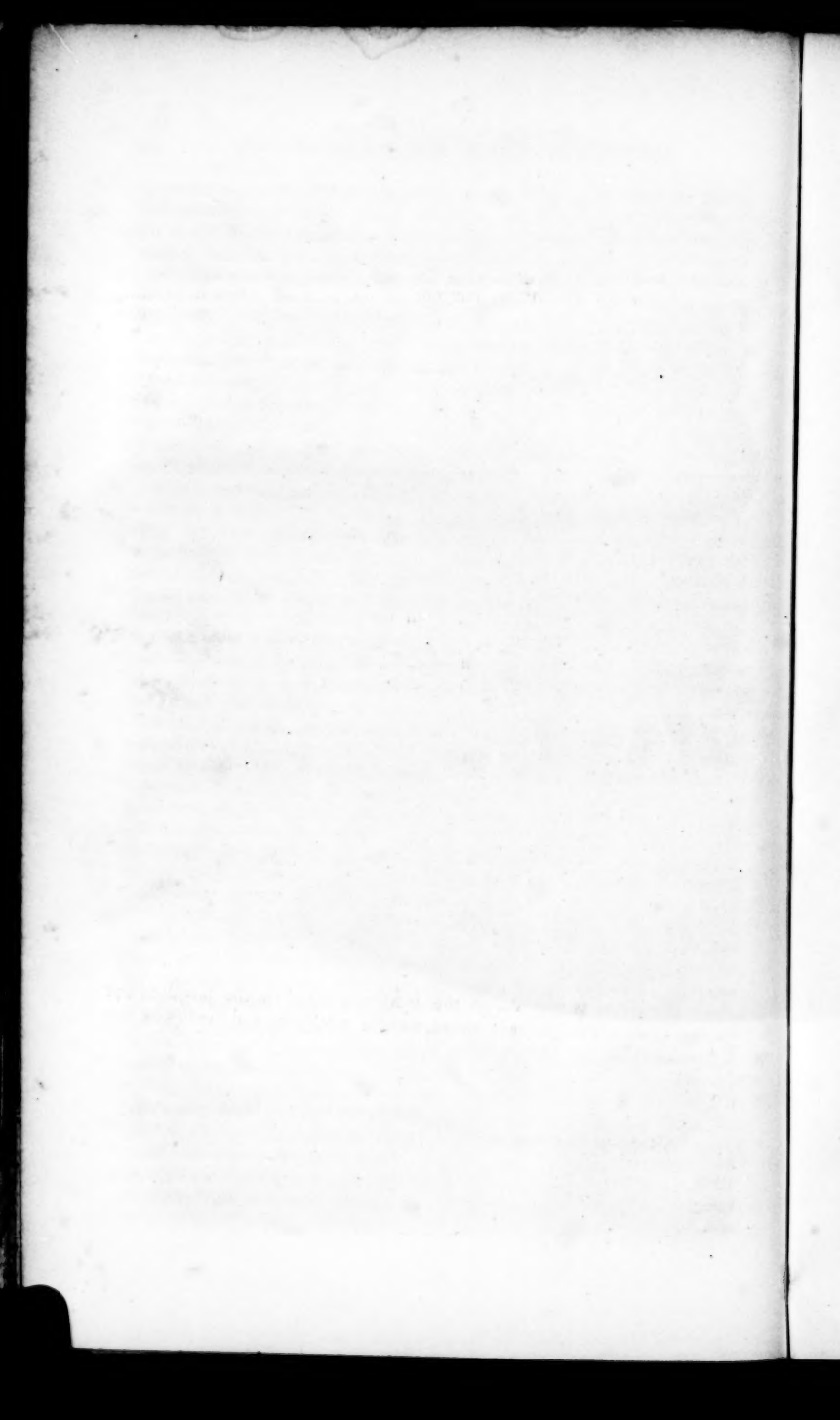
13. Has had but little rest; head aches; vomited several times in the night. The pain was confined to the left side of the head in the night, but it is now over the eyes. Tongue a little furred; bowels had moved; pulse hard and small; no pain in the neck. Vs. f3 xvi. This afforded perfect relief. Ordered an infusion of rhubarb, with carb. soda and anise seed, to be taken in small quantities. Take a few drops of laudanum in case of much gastric disturbance, and an injection of starch in the evening.

14. Very comfortable. Slept six hours last night; impatient for something to eat. Neck stiff and sore, but has been entirely free from pain since bleeding. Keep still and continue water gruel.

15. No pain; pulse 90, small; tongue a little furred, but has some appetite; complains of weakness; bowels moved yesterday. Was comfortable till last evening, when, after eating a roasted apple, she became very sick, with intolerable pain the head, and numbness of the









tongue, all which symptoms subsided as soon as she ejected the apple. After this, slept well. Continue gruel, and tr. opii if needed.

16. Complains of vertigo; appetite poor; pulse 70. Took six drops tr. opii last evening. Continue gruel, and tr. opii if necessary.

17. Vertigo continues; feels weak; wound nearly healed. Temperature of the left cheek we judged to be ten degrees lower than that of the right.

20. Vertigo diminished; pulse 75; appears to be doing perfectly well.

25. Feels quite well, only a little weak. Has had severe pain in the head for a short time; thinks it was occasioned by inanition. Three days ago felt a throbbing in the ear for a short time. Allowed a little animal food at noon. Tea and dry toast morning and evening.

April 1. Ligature retained; soreness above it, and surrounded by fungous granulations. Applied caustic. On examining the site of the tumor, felt slight pulsation. Feel fearful the operation will be useless.

4. Now quite well, but says she has had one or two attacks of throbbing in the ear and eye.

12. Ligature came away this morning. She appears well; has had no pain or throbbing since the 4th. The aneurismal tumor is scarcely perceptible, and all pulsation has ceased. Thus far the operation appears to be successful, notwithstanding the unpropitious circumstances observed on the 1st and 4th.

The above is transcribed from my *Memoria Medica*. I lost sight of her from that time, she having followed her husband to another military station. I have never heard from her since, till a few weeks ago, when I met a gentleman of considerable intelligence, from Florida, who knew her there as well as here, and says she had never felt a symptom of the aneurism up to the time of his leaving the station in the summer of 1838.

You will have my entire approbation to dispose of this just as you please. If it is not thought worthy of a place in your Journal, you are entirely at liberty to consign it to the tomb of the Capulets.

With much respect,

Portland, Me., Feb. 16, 1839.

J. W. MICHOLS.

#### ABSCESSES IN THE THORAX, &c.

[Communicated for the Boston Medical and Surgical Journal.]

THE opening of abscesses deeply seated in the viscera of the thorax, abdomen, &c., particularly when seated in the substance of the liver, lungs, &c. (and likewise the opening of tumors situated over large arteries, when it cannot be certainly determined whether these tumors are aneurisms or not), are very important and hazardous operations. We are sometimes urged, and even pressed, by the patient or his friends, to perform the above operations, and that when the existence of matter cannot be clearly ascertained; and the result, of course, must be doubtful in such cases, which indeed are but few. We should be very careful to remind the patient and his friends that we must expect sometimes to be disappointed; but after all our precaution, it is very unpleasant to

the operator, the patient, and his friends, to perform a useless operation. No prudent surgeon would urge such an operation, nor would he operate on his own responsibility; he should always request a full council.

Yet there are cases in which we may be certain of the existence of matter in the lungs or cavity of the thorax; but when we have made the incision, no matter is discharged. In such cases we may have told the patient and his friends that the matter laid much deeper than we expected. On examination, before the operation, by laying the hand on the side, when the patient coughed we could plainly feel the matter dash against the ribs—we could likewise hear it, as we supposed; and we expected to have found the matter in immediate contact with the ribs, or very near—but we have now found that the matter is in the substance of the lungs, and to thrust a cutting instrument deep into the lungs might be immediately fatal. Yet we should hope that by keeping the wound open by a tent, the matter would eventually be discharged by the opening; and this has, in several instances, been the case, though in other cases the patient has suddenly died from suffocation in consequence of the abscess bursting into the bronchia; and in other cases the patient has sunk under the disease before the matter found its way to the opening, which has often put the operation in a bad light. The friends of the patient have been disappointed, and have in some instances supposed that the operation had shortened his days, or even might have been the occasion of his death. At least, such operations do not add much to the credit of the surgeon, and are always unsatisfactory to the friends of the patient, and, what is of much more importance, there is strong reason to believe that could such abscesses be opened at a proper time and manner, the patient's life might often be preserved.

In the course of more than thirty years' practice, I have seen many cases of the above description, and have been much perplexed in their treatment. Though in general I could satisfy myself as to the existence of matter, to know its exact situation was difficult. Yet this may in general be pretty nearly ascertained; but to discharge a deep-seated abscess of the lungs or liver, is at least a difficult operation. In all the operations in which I have been concerned, in the before-named cases, there has been an adhesion of the lungs to the pleura, and of the liver to the peritoneum. In failure of this, the operation would be attended with much more hazard, and recovery be more doubtful. In one case of which I had knowledge, where an opening was made into the cavity of the thorax, and where the pleura did not adhere to the lungs, respiration was suspended for a short time. As the air is admitted by the opening to one side of the thorax only, were we sure that the lung on the other side was completely sound, the risk in general would not be great; but in such cases as we are usually called to operate on, it is often found that neither of the lungs is entirely sound; besides, abscesses of the lungs are often complicated with dropsy of the chest, lesion of the heart, &c.

I would, for these reasons, recommend, before the operation, a careful inquiry as regards the above particulars, and to ascertain as near as pos-

sible whether there is adhesion of the lung which we are about to operate on, to the side ; whether there is reason to expect that the other lung is capable of supporting respiration, and sufficiently sound to support the circulation, oxygenation, &c., of the blood ; whether there is dropsy of the chest, heart, or lungs. After the most careful inquiry, should there be no important objection from any of the preceding circumstances, we may consent to operate, and possibly hold out to the patient some prospect of a final recovery, and considerable hope, at least, of an alleviation of his sufferings. After making an incision into the cavity of the thorax, should there be adhesion of the lung to the pleura, the lung may be penetrated a short distance by a small trocar covered with a canula ; or a silver tube with a steel stilet, say one sixteenth of an inch in diameter, may be carefully passed into the substance of the lung, a very short distance, say half an inch ; and should you have reached the cavity of the abscess, by frequently withdrawing the stilet, while you still retain the canula within the cavity of the abscess, you will find a little matter adhering to it.\* But when I have not, by this method, been able to reach the cavity of the abscess, I have succeeded in the following manner, viz. I take a common silver probe, say six inches in length, with a small round point like a ball, which should be very smooth, and somewhat larger in diameter than the probe. This instrument I choose because it will not readily enter the coats of an artery or vein, when gently and cautiously introduced. This I gradually introduce by very moderate and cautious pressure, gently rolling it, by which means the vessels will yield to one side or the other, and the probe pass on without injury. When the probe has penetrated to the walls of the abscess, we may expect more resistance than in any other part of its course ; but by gentle pressure—for none other should be ever used—and rolling the probe from side to side, it will, doubtless, penetrate. When this is effected, it will be known by its passing without resistance. I now take a small director, of the usual length, and gently introduce it into the cavity of the abscess, by means of the probe which I still retain in its situation in the cavity of the abscess. Now, by holding the probe firm with one hand, while I take the director in the other, I gradually distend the opening till the matter is discharged.

JOSEPH WILSON, M.D.

Franklin, N. H., Feb. 12, 1839.

#### THE STATE LUNATIC HOSPITAL AT WORCESTER.

[THE following are selected from the large number of interesting facts contained in Dr. Woodward's last annual report.]

\* I was once called to operate for an aneurism of the carotid artery at the angle of the lower jaw. I supposed that possibly it might not be an aneurism, though it pulsated strongly, and was of several months' standing, and to cut down and take up the carotid artery, or to open an aneurism for an abscess, were operations too important to hazard. To be certain, if possible, in this case, was of the first importance. In order to ascertain the nature of the disease, I took the canula and stilet before described, and passed it into the cavity of the pulsating tumor. After withdrawing the stilet several times, while I retained the canula firm in the cavity of the tumor, I clearly ascertained that it contained pus, and was an aneurism. Of course it was unnecessary to take up the carotid artery.

In the course of the last year, there have been admitted 177 patients, a greater number than has heretofore been admitted in any single year. Of these, 96 were males and 81 were females; 92 were of less duration than one year, 45 males and 37 females, and 95 of longer duration than one year, 51 males and 44 females.

At the close of the year there were in the hospital 218 patients, of whom 115 were males and 103 were females. Of this number of cases 28 are of duration less than one year, and 190 of duration longer than one year.

During the year there have been in the hospital 362 patients, 177 of whom were admitted in the course of the year, and 185 were in the hospital at the commencement of the year.

There have been discharged during the year, including deaths, 144 patients, of whom 84 were males and 60 were females. 76 of these recovered, 45 males and 31 females; 24 were improved, 11 males and 13 females; 14 were not improved, 8 males and 6 females; 14 were discharged harmless and incurable, for want of room, 10 males and 4 females; and 16 have died, 10 males and 6 females.

Of this number of cases discharged, 74 were of less duration than one year, 47 males and 27 females. Of these 64 recovered, 38 males and 26 females; 6 were discharged improved, 2 males and 4 females; 4 have died, 3 males and 1 female.

Of the number of cases discharged, 70 were of duration longer than one year. Of these 42 were males and 28 were females; 12 recovered, 7 males and 5 females; 18 were discharged improved, 10 males and 8 females; and 12 died, 7 males and 5 females.

Respecting the ages of patients now in the hospital, of any 10 years, the greatest number of patients are between 30 and 40 years of age, few are under 20, and more are between the ages of 40 and 50 than between 20 and 30. This, it is believed, is different from the fact with most hospitals for the insane, and may be accounted for, in part, from the accumulation of old cases in this hospital, which was originally designed principally for incurables, many of whom will continue within its wards while life remains.

The average number for the year 1837 was 163; the average number for the year 1838 is 211, a difference of 55 in the average of the two years.

At this time the hospital is as full of patients as it is desirable that it should ever be, and without the lodges, which should never be estimated as a part of the accommodations of the establishment, is already more than full.

The recoveries of mania are about 60 per cent., and the recoveries of melancholia about 59 per cent., while recoveries of dementia, as we use the term, are from 2 to 3 per cent. only.

The great list of employments in the table show conclusively that all mankind, of whatever pursuits, are liable to the evil, and that little can be said of the occupation as a cause of the insanity in any case.

The number of single persons continues to be much larger than the married, as has always been the case in the hospital. During the last

year, we have received 101 patients that have never been married, 65 married, and 11 in a state of widowhood.

Intemperance continues to be a prominent cause, but we are happy to think it is less frequent than formerly. It will elsewhere be recorded that this cause, during the first three years of the hospital, gave origin to 25 per cent. of the cases of insanity admitted, while it is supposed to be the cause in but 14 per cent. of the cases admitted the last three years. If this is any indication of the proportionate diminution of its influence in other respects, unfavorable to public health and public morals, the prospect is most cheering. We have had no case of delirium tremens for the last year, and very few since the institution was opened.

The number of admissions from religious causes has been about the same as usual the past year. A subject so deeply interesting to the human mind as its eternal well-being, must ever have an agency in the production of insanity; these cases come in bold relief before us, and we deprecate the influence which has produced them. All the most valuable institutions of society, however, are liable to the same objections—marriage, education and civilization, as well as christianity, are the causes of insanity in many cases, though it is not the legitimate tendency of any of them to produce this effect.

The number of admissions from masturbation, the last year, has been less, and the cases of a more favorable character. 6 cases only are known to have arisen from this cause; but probably 3 or 4 others may have done so. 4 or 5 of these cases have recovered, and have been discharged with such feelings of the nature and tendency of the practice, as it may confidently be hoped will ensure them from future indulgence and its consequences.

The ascertained causes of insanity in the 855 cases at this hospital, rank thus: 1, intemperance; 2, ill health of all kinds; 3, masturbation; 4, domestic afflictions; 5, religious excitements; 6, loss of property and fear of poverty; 7, disappointed ambition; 8, injuries of the head; 9, use of snuff and tobacco. In a few cases, the cause of the insanity is unknown. Foreigners and citizens of other States found insane in this, have occasionally been committed, whose histories could not be ascertained. Probably we should approximate the truth very closely in distributing the unknown causes under the above heads, according to their relative proportions.

Of the whole number of cases admitted into the hospital, 334 were of less duration than one year, of which there are recovered or supposed curable, 294, which is 88 per cent. From one to two years' duration, 118; recovered or supposed curable, 79, a fraction more than 66 per cent. From two to five years' duration, 141; recovered or supposed curable, 45, a little less than 36 per cent. From five to ten years' duration, 96; recovered or supposed curable, 12, or 12½ per cent. Over ten years' duration, 118; recovered, 4, less than 3½ per cent.

During the last year, the recoveries of patients in whom insanity commenced under 20 years of age, has been 46 per cent.; in those between 20 and 25, 51 1-3 per cent.; between 25 and 30, 42 per cent.;

between 30 and 35, 51 per cent.; between 35 and 40, 51 per cent.; between 40 and 45, 67 per cent.; between 50 and 55, 60 per cent.; between 55 and 60, 66 per cent.; between 60 and 65, 90 per cent.; between 65 and 70, 67 per cent.; after the age of 70, 57 per cent.

Of the deaths that have occurred in the hospital, 12 have been of recent cases, and 41 of old cases. No one has died of fever, and 4 only of inflammatory disease.

The proportion of deaths must be considered small for the number of the imbecile, feeble and diseased that have annually been brought to our care, being only 53 of 855, a little more than 6 per cent.; the average on the number in the hospital each year, is about  $3\frac{1}{2}$  per cent.

Recovery of insanity from certain causes: From intemperance, 51 1-3 per cent. Domestic afflictions, 58 per cent. Ill health, 62 $\frac{1}{2}$  per cent. Religious causes, 55 $\frac{1}{2}$  per cent. Masturbation, 18 $\frac{1}{2}$  per cent.

## BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON, FEBRUARY 27, 1839.

### SURGICAL APPARATUS.

THE idea of presenting anything altogether new in surgery, at this period, is preposterous; yet it is nevertheless true that excellent things may be had in the way of apparatus, very much superior to a majority of the machinery in common use, for splinting limbs, making extension, or confining fractured bones. We happened to have a pleasant interview, a few days since, with Dr. L. Howe, an ingenious and skillful surgeon, of Jaffrey, N. H., who, without designing to seek notoriety, favored us with an examination of several instruments of his contrivance, designed originally for his individual convenience, in his own circle of practice. They were so well adapted to the particular condition of bones in various kinds of fractures, so very economical, too, and likewise so much superior to the trumpery called splints now on sale throughout the country, that we really believe the extensive manufacture of Dr. Howe's inventions would be a public service.

First, he has a pully, connected with a regulating windlass, for the management of fractures of the neck or shaft of the femoris, simple in its construction, but precisely what would be wanted under such circumstances. It strikes every one at all acquainted with the anatomy of the thigh, as being superior to any contrivance used in public institutions.

Next, a *posterior-concave splint*, with a ratchet-wheel windlass, for controlling fractures of the lower limbs, is equally ingenious, and quite as useful as the other, either in extensive private surgical practice, or in a hospital. It is at first view so obvious that both of these machines are strictly philosophical, that they would soon have repute if they were once put on sale.

Besides these, there are several flexible cases, which open to receive fractured limbs, and afterwards are buckled down firmly. They are made of painted cloth—but quite useless to those possessing the instruments just



described. After a close examination of these boxes, for such they are in fact, we have come to the conclusion that they are no better than the felt splints, or many other schemes familiar to surgeons for keeping bones in place.

A third invention, valuable in its place, is called the *ulna elevator*, which is a semicircular spring, padded at each extremity, and managed by a regulating screw. Those who have had experience in fractures of the lower end of the ulna, know how extremely difficult it is to keep the head in its place. The elevator is adjusted with a nicety which wholly relieves the surgeon from anxiety as to the result, while the patient is saved from unnecessary pain, or bandaging. We look upon this as an entirely new instrument.

Lastly, Dr. Howe's *semicircular tourniquet* is no less ingenious than those we have been describing. One of the principal objections to a common garter tourniquet arises from the circumstance that it becomes a ligature, confining both veins and arteries. With this, the pressure is made on two points only, viz., on the artery and the bone opposite. No interruption is given to the venous circulation or the smaller class of arteries in the muscles by this, which is managed by a fine-threaded screw.

Having neither the instruments or drawings of them, with the exception of the tourniquet, it is quite difficult to describe them with precision; and, what is worse still, none of them are to be had in Boston or any other city, having never yet been put on sale.

One object in these remarks is to urge our country friends to persuade Dr. Howe either to supply the principal cities with his instruments, or else allow some of our instrument-makers to do it. If Mr. Phelps, of Court street, once had permission, we are confident that he would soon convince surgeons, far and near, that this apparatus, as far as it goes, is superior to any now known to them for controlling fractured bones.

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*Scarlet Fever.*—Notwithstanding the frequent calls we have made upon the profession to answer this question—why is not the scarlet fever managed with more success than the bills of mortality show it to be, in the United States? it is again urged upon the consideration of practitioners. In Boston, in 1831, 63 persons died of scarlet fever; in 1832, 149; in 1833, 61; in 1834, 28; in 1835, 46; in 1836, 16; in 1837, 39; and in 1838, 91. In the month of January last, 34 died, and up to February 20th, present date, 20 more have been carried off by this same besom of destruction. The malady has been, perhaps, equally destructive in all the cities and large inland towns on the seacoast, during the same years. Still we hear of no improvements in practice. There is a plenty of fine-spun theory abroad, a quantum suff. of which has been sent (yet unpublished) to our address; but this is by no means satisfactory. Till the mortality is actually lessened by medicine, we shall be slow to believe that scarlet fever is well treated. That we might be satisfied that all human exertion had been made to save a patient—that all the knowledge and all the experience of a gentleman, who has lost as many patients by the scarlet fever as any man of his age, had been brought to bear, we were lately invited to examine a case. It was precisely as represented; whatever others had given, was given here, and the practice was as mechanical as the operations of a carding machine. Everything operated kindly, and—the patient died. Cannot some new rule of practice be devised, combining



more advantages than the old? This is a plain and important question—for there is an urgency; a very few, only, recover, and therefore it is inferred that a new mode of treatment is required in this climate.

*Dr. Hamilton.*—The appointment of Dr. F. H. Hamilton, of Auburn, N. Y., to the chair of Surgery in the Western College of Physicians and Surgeons, at Fairfield, seems to be very satisfactory to the public. He is a persevering, industrious student, and therefore will succeed anywhere. Men of his power and activity, to say nothing of genius, are very much needed in more than half of the medical schools in the Union. Everything goes by management in these degenerate times. To one person fitted by nature for the station of a lecturer on science—in too many scientific institutions—there are ten stupid leaden-headed drags, who neither elevate themselves, or advance the cause of useful knowledge. It is strange that those who have the care and keeping of the honor of medical seminaries do not open their eyes to the monstrous and glaring iniquity of putting cousins, nephews, and almost aunts, into chairs which it is not possible for them to sustain with dignity, or profit to the world. Yet all this is done, to the disgrace of the age, while those most competent are left to grope through life in obscurity. The election of Dr. Hamilton is one of those deviations from the common policy of our medical schools, which actually excites our encouragement—for he is a man of rare talents, and has in no way played a second fiddle to any of the old orchestra.

*Division of the Tendo-Achillis.*—Dr. Brown, of the Orthopedic Institution, in this city, performed the above-named operation on Thursday last, upon a little unfortunate child, by the name of Julia Ann Gowers, which promises the happiest results. Both feet were clubbed, which must always be considered a very bad deformity. By cutting off the great heel-cord of each foot—which was done almost in a twinkling, without loss of blood—both feet were easily brought into a natural and useful position. The cure is going on admirably, and the prospect now is, that in the course of a few weeks the patient (only three years old) will have a pair of feet nearly as good as they would have been, had there been no congenital malformation.

*Massachusetts General Hospital.*—The following officers have been elected for the current year.

*Consulting Physicians.*—Drs. James Jackson, Geo. C. Shattuck, John Randall, and John Homans.

*Consulting Surgeons.*—Drs. George B. Doane, John Jeffries, Abel L. Peirson, and Edward Reynolds.

*Physicians.*—Drs. Jacob Bigelow, Enoch Hale, and John Ware.

*Surgeons.*—Drs. John C. Warren, George Hayward, and Solomon D. Townsend.

*Assistant Physician.*—Dr. Henry I. Bowditch.

*Superintendent of Hospital.*—Dr. G. Bradford.

*Physician and Superintendent of McLean Asylum.*—Dr. L. V. Bell.

*Hudson Lunatic Asylum.*—S. & G. H. White, M.D., proprietors. During the year 1838, 98 patients have enjoyed the benefits of this institu-

tion. Sixty have been admitted during the year, and thirty-eight were remaining at the close of 1837. The whole number of recent cases, 30; chronic do., 65; intemperate, 3.

Of the recent cases, 15 recovered; 5 convalescent; 5 improving; 1 unimproved; 4 died. Of the chronic cases, 9 recovered; 6 convalescent; 21 much improved; 15 improving; 10 stationary; 4 died. Intemperate, 2 reformed; 1 unreformed. Remaining, January 1, 1838, 43 patients, to wit: Chronic cases, 33; recent do., 10.

Since the opening of this institution, a period of eight years and a half, four hundred and ten patients have been admitted.

Family worship has been continued during the past year, with beneficial effects, which all the quiet patients have had the privilege of enjoying.

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*Marshall Hall's Lectures on the Theory and Practice of Medicine.*—We learn that Messrs. C. C. Little & Co., of this city, have in press and will speedily publish Dr. M. Hall's Lectures on the Theory and Practice of Medicine, extracts from which have appeared in the two preceding volumes of this Journal. The American edition is revised, and will contain considerable additions by Drs. J. Bigelow and O. W. Holmes, of this city.

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*Medical Miscellany.*—It is said that a Philadelphia physician is about establishing a private hospital at Havana.—During the terrible destruction by the late earthquake in the Island of Martinique, the hospital of Port Royal was thrown down, and advices say one hundred patients, lying in the wards, were buried in the ruins.—The Medical Examiner states that the American Philosophical Society has declined acceding to the proposal from Boston, relative to an American Institution for the Cultivation of Science.—The yellow fever is making frightful havoc at Martinique.—Rev. Dr. Matthews, Chancellor of the University of New York, has resigned his office, and now we trust the medical department of the institution will prosper.—Mr. Combe will give a second course of lectures, beginning the 28th inst., at Philadelphia.—The Legislature of Massachusetts had a letter laid before it last week, from the Board of Administrators of the Charity Hospital, at New Orleans. What can it be about?—A horrible case of hydrophobia, which terminated fatally, in the person of a Mrs. Kelly, recently occurred at Lancaster, Penn.—Dr. Holmes, of Sorel, Canada, has been arrested for the perpetration of a horrid murder, near Quebec.—Dr. Parsons, of Providence, R. I., has a patient under his care, who was wounded by a shot that nearly divided the large intestine: there is a prospect of recovery.

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TO CORRESPONDENTS.—The wood-cuts to illustrate Dr. Wallace's paper on the eye, were not finished in season for this No. The article shall appear next week.

Dr Curtis, of Columbus, Ohio, can procure the Class-Book of Anatomy, 3d edition, together with the American Medical Almanac for 1839, at Philadelphia, Louisville, Ky., or at Cincinnati. We would transmit both works, with pleasure, as requested, but we know of no mode of conveyance from Boston.

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Whole number of deaths in Boston for the week ending February 23, 23. Males, 12—females, 14. Of consumption, 5—convulsions, 1—scarlet fever, 6—old age, 3—lung fever, 2—apoplexy, 1—hooping cough, 2—child-bed fever, 1—inflammation of the bowels, 1—croup, 1—infantile, 2—cancer in the bowels, 1—erysipelas, 1—scald, 1—diarrhoea, 1—marasmus, 1.

## AUBURN MEDICAL SCHOOL.

Dns. F. H. HAMILTON and OWEN MUNSON, being associated in the practice of medicine and surgery, will commence their course of private instruction on the 1st of March, 1889.

A series of lectures on Surgery and Surgical Anatomy, will be given by Dr. Hamilton, continuing six months from the first of March: two lectures per week. All the principal operations in surgery will be performed in the presence of the class.

The students will also be daily instructed and examined in the other branches of medical science.  
Terms—\$34 per year; payable half yearly, in advance. Feb. 20—1M1

## VERMONT MEDICAL COLLEGE.

THE annual course of Lectures, at this institution, will commence on the second Thursday of March next, and continue thirteen weeks.

Theory and Practice of Medicine and Obstetrics, by	H. H. CHILDS, M.D.
General and Special Anatomy and Physiology, by	ROBERT WATTS, JR., M.D.
Principles and Practice of Surgery, by	GILMAN KIMBALL, M.D.
Chemistry and Materia Medica, by	DAVID PALMER, M.D.
Medical Jurisprudence, by	NORMAN WILLIAMS, A.M.

Fees for the course—\$50. Graduation—\$18. For those who have attended two courses, but do not graduate—\$16. All the above expenses to be paid in advance, or secured by note, with a satisfactory endorser, to David Peirce, Esq., Treasurer of the Institution. Board may always be obtained in the village on reasonable terms. By order of the Board of Trustees, N. WILLIAMS, Secretary.  
Woodstock, Vt., Feb. 5, 1889. Feb. 20—31

## DR. HULL'S UTERO-ABDOMINAL SUPPORTER.

This new instrument for the radical cure of Prolapsus Uteri, or Falling of the Womb, by external application, superseding the use of the objectionable pessary, is confidently recommended to the afflicted as the means of a perfect restoration to health, it never having failed of performing a cure, even under the most aggravated circumstances. It has received the decided approbation of Sir Astley Cooper, of London; Sir Benjamin C. Brodie; Sir James Clark, Physician to the Queen; Dr. Ashwell, Lecturer on Midwifery to Guy's Hospital; Dr. Rigby, Lecturer to St. Bartholomew's; Dr. Griffith, Lecturer to Westminster Hospital; Dr. Ramsbotham, Lecturer to London Hospital; Robert Ferguson, Lecturer to Westminster Lying-in Hospital; Dr. Sweetman, Lecturer to Middlesex Hospital, and Senior Accoucheur to Queen Charlotte's Lying-in Hospital; also by Henry Davies, Conquest; Blundell, Lee, Merriman, Surgeon Keates, &c.; by Dr. Moran, President of the Académie Royale de Médecine, Paris, and Accoucheur to the Duchesse D'Orléans; Professors Velpeau, Marjolin, Paul Dubois, Sanson, and others—and in New York by Professor J. W. Francis; G. S. Bedford, M.D., Professor of Midwifery in University of the city of New York; Professor Delaisid, Professor Francis U. Johnston, President County Medical Society; Laureus Hull, President Medical Society, State of New York; Professor James McNaughton, Albany; Professor March, Professor Cyrus Watkins, Professor Doane; James Webster, M.D., Professor of Anatomy and Surgery, Geneva; David L. Rogers, Professor Surgery, Geneva College; Drs. Thomas Boyd, Gilbert Smith, Hosack, Stearns, Ludlow, Klemm, Vache, Fowler, Grayson, Van Rensselaer, and many other distinguished physicians of the United States.

AMOS G. HULL,  
Office 4 Vesey Street, Astor House, New York.

A constant supply of the above instruments will be kept by Reed, Wing & Cutler (late Lowe & Reed), No. 54 Chatham street, Boston. Lowe & Reed have sold many of the above instruments, and can refer to physicians of eminence by whom they have been highly approved, as well as to patients to whom they have afforded the most essential relief. Price \$16. Feb. 13—6m

## PRIVATE MEDICAL INSTRUCTION.

Two subscribers are associated for the purpose of giving a complete course of medical instruction. Their pupils will have regular access to the medical and surgical practice of the Massachusetts General Hospital. They will be admitted, also, to the practice of the House of Correction, which constantly presents a large number of important cases, and where opportunities will be afforded for acquiring a practical knowledge of compounding and dispensing medicines. They will be furnished with opportunities for the study of Practical Anatomy, not inferior to any in the country. To the pupils, particularly to those in the last year of their professional studies, facilities will be afforded for acquiring a personal acquaintance with private medical and obstetric practice. Instruction by examinations or lectures will be given in the different branches of medical studies, during the interval between the public lectures of the University. Books, and a room with fire and lights, will be furnished to the students at the expense of the instructors.

GEORGE C. SHATTUCK,  
WALTER CHANNING,  
JOHN WARE,  
GEORGE W. OTIS, JR.,  
WINSLOW LEWIS, JR.

Oct 31—eptf

## NEW LEECH ESTABLISHMENT.

Two medical profession are hereby informed that the subscriber has made such arrangements that he will be able to supply them with the best Foreign Leeches, at the lowest market price. They will be safely put up in boxes, with the clay in which they were imported. Physicians may be certain that careful attention will be given to their orders.

Oct. 17—lycep

SETH W. FOWLE,

33 Prince St. corner of Salem St. Boston.

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